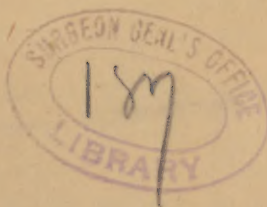
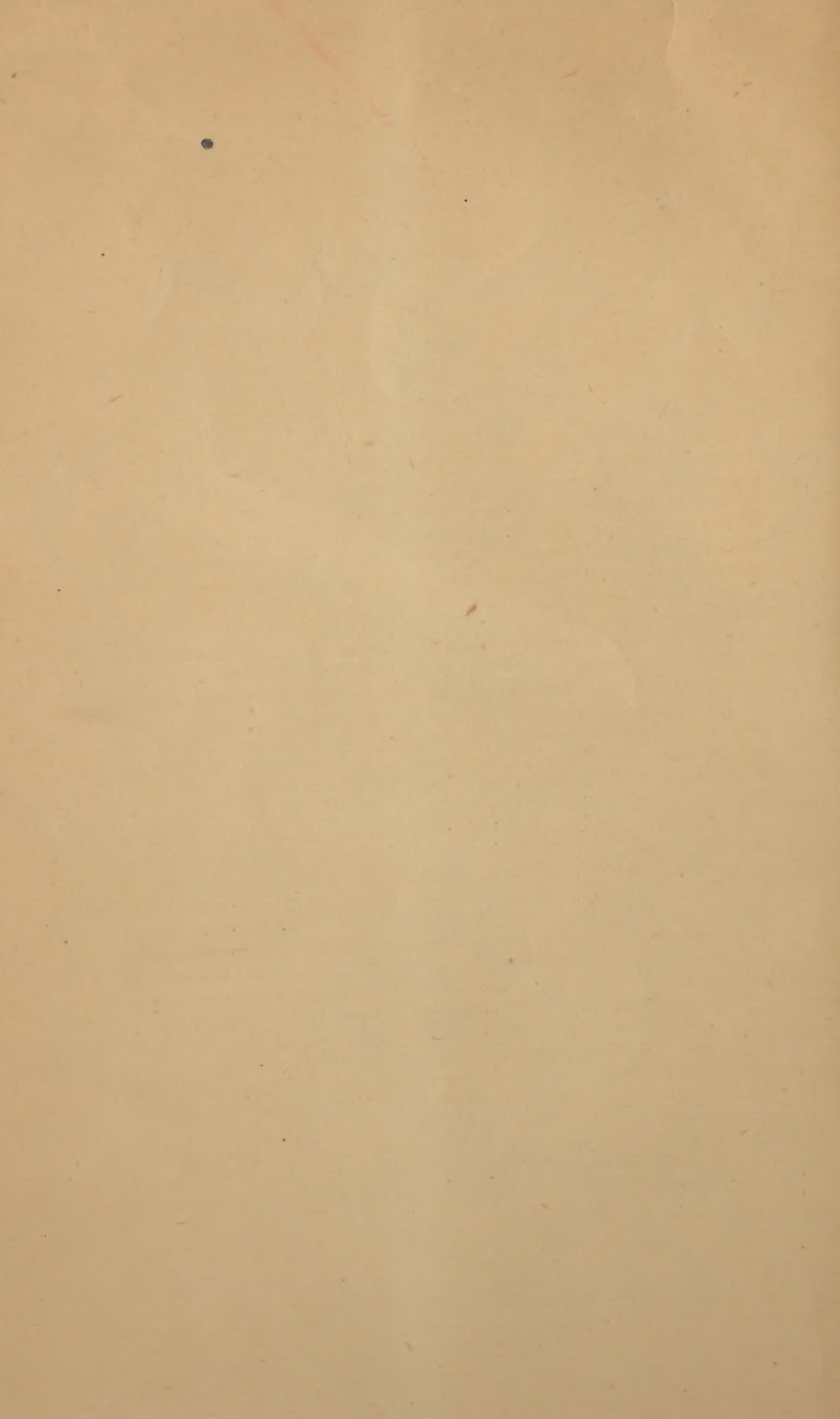


MEMOIR
of
Elias Durand

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D^r Joseph Cassin

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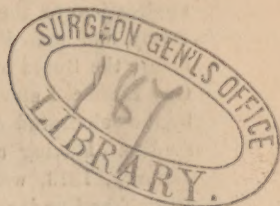
1812

DUP.

MEMOIR

OF

ELIAS DURAND.



ELIAS DURAND (*Elie Magloire Durand*) was born in the town of Mayenne, France, on the 25th of January, 1794, second year of the French Republic, in the midst of the most trying times of the Reign of Terror, and was the youngest of fourteen children. His father, André Durand, was Recorder of Deeds at Mayenne, a man much respected, and though a royalist in opinion, he retained his position as recorder through the varying scenes and parties of the Revolutionary struggle and the Empire till his death, in 1810, being forced at times to secrete himself with the funds and records to save them from the party in temporary power.

During the period between 1794 and 1808 young Durand lived in his native town, and being placed in due course at the Collegiate school, passed through the regular studies. About this time his interest was attracted to the study of chemistry, then claiming a large share of scientific attention, which was probably the cause of his becoming a pharmacist, as in October, 1808, he was entered as an apprentice to M. Chevallier, of Mayenne, a gentleman of great erudition, an excellent chemist and pharmacien, and well versed in the natural sciences.

From what can now be learned, M. Chevallier was remarkable for the great interest he took in his protégés, who were afforded every opportunity to acquire knowledge and skill in their profession. During the first winter of Durand's apprenticeship he pursued the study of natural philosophy and chemistry; in the spring he applied himself to botany. During the second winter his attention was directed to practical chemistry and the manipulations of the shop laboratory, his preceptor explaining from time to time, in the most lucid manner, the chemical reactions and combinations taking place during the operations carried on. The third winter was devoted to the study of *materia medica* and pharmacy, in connection with which his preceptor gave him instruction in the collateral branches, mineralogy, geology and entomology.

Elias Durand in after life often spoke of his great indebtedness to M. Chevallier for the varied elementary knowledge in the sciences which he had acquired under his able tuition, and for which he always felt grateful.

In 1812, when Napoleon was preparing the means for his invasion of Russia, every available man was called upon to enroll himself. Young Durand, having completed his apprenticeship, and attained the age of 18 years, became eligible

for the army, and, not wishing to be conscripted into the ranks, made prompt application to the Minister of War for the position of *Pharmacien* in the Army, and immediately proceeded to Paris to prepare himself for examination before the Board of Examiners. There he attended the lectures of Thenard, Gay Lussac, Lefevre, Gignault, and a course of lectures on French literature, by the celebrated Andrieux, applying himself with great industry to his various studies. Having received notice from the Minister of War that the 10th of January, 1813, was appointed for his examination, he accordingly presented himself and underwent a strict scrutiny, his replies to the queries being made in writing. The next day he called on M. Parmentier, the Chief of the Pharmaceutical Department of the Army, to whom all the answers of the candidates were submitted, and received the flattering compliment that he had passed at the head of the list.

On the 2d of February he received his commission as *Pharmacien sous aide* in the 5th Corps of the Observation of the Elbe, with orders to cross the Rhine on the 15th of March. Having procured his uniform and accoutrements, he spent a short time with his family and friends at Mayenne, and on the appointed day presented his commission to Marshal Kellerman, commanding at Mayence, who ordered him to proceed at once to Magdeburg, the headquarters of the 5th Corps. He joined a detachment of fifty men from the Military Hospitals at Mayence, commanded by young officers from the Military School of St. Cyr, and was eleven days *en route* to Magdeburg, chiefly on foot, passing Frankfort, Giessen, Marburg, Cassel, Gottingen, Osterode, Goslar and Halberstadt. On arriving the men were nearly all entered in the 5th Corps, commanded by Prince Eugene Beauharnais, then numbering 70,000 men. Young Durand was assigned to the 3d Division, under La Grange, near Magdeburg, and continued in the army 14 months, till the abdication of Napoleon, having been present at the battles of Mockern, Lutzen, Bautzen, Hainau, Katzbach and Leipzig. During this brief period he experienced many severe hardships incident to a soldier's life, largely increased by the nature of the contest, which was virtually a retreat through a hostile country until they recrossed the Rhine. He was once taken prisoner, at Hainau, but managed to escape.

In his capacity of *Pharmacien* he was very little exposed to danger, unless voluntarily. His duty was to follow or precede the army, according as it advanced or retreated, and assist in the establishment of military hospitals when needed, so that when the army was in motion his duties were light, and, being on horseback during battle, he was frequently an eye-witness to very important movements.

On the 3d of April, 1814, Durand tendered his resignation as *Pharmacien aide major* to M. Lodibert, the *Pharmacien* in Chief of the Corps (and afterwards President of the *Société de Pharmacie*), who urged him strongly to remain in the army, where efficient services had pointed him out for promotion, but he continued firm in his decision.

After a short visit to his home he went to the City of Nantes, well provided with letters, and obtained the situation of head clerk in the store of M. Frétaud, one of the principal apothecaries, where he remained two years. It was at this time that he gave his leisure, in real earnest, to the study of botany,

passing all his vacations in botanical excursions with the principal botanists of the place. During a part of this time he directed the Society's laboratory, called *Laboratoire du jardin des Apothecaires*, and delivered a course of lectures on medical botany, during the summer months, to the apprentices in pharmacy, on the different medicinal plants cultivated in the garden. This laboratory was used in common by the principal pharmaciens of Nantes, to prepare their chemicals, and was so conducted that the management went by rotation, the materials contributed by different stores, say for calomel, nitrate of silver, ether or other medicine needed, were made up together, and the products divided *pro rata*. In this way a great variety of costly apparatus was available to each member, quite beyond his ability to possess, and his advanced apprentices were afforded opportunities to assist, and acquire practical knowledge.

On the return of Napoleon from Elba our young pharmacien joined the National Guard against the Royalist party of La Vendée during the 100 days. After the battle of Waterloo, and Napoleon's final abdication, he returned to his duties at Nantes, but, being strongly suspected of Napoleonic proclivities, he was placed under military surveillance, and compelled to present himself every morning at the police station. This tyrannical order interfered very much with his business duties, caused great annoyance to his employer, and disgust at the treatment he received determined him to abandon his country and seek beyond the Atlantic the freedom denied him at home. Taking passage in the brig "*La Nympe*," at Nantes, on April 16th, 1816, he reached New York on the 1st of July following, and at once proceeded to Boston to visit Bishop Chevrus, afterwards Cardinal Chevrus, a distant relative, through whose influence he became acquainted with several scientific men of that city, of whom Dr. Joseph Warren urged him to remain in Boston, where his chemical knowledge would receive encouragement. Mr. Perkins, a druggist, made him an offer to establish a laboratory for medicinal chemicals, with the prospect of a partnership. He accepted the offer, started the works on the French plan, and began the manufacture of Rochelle salt, tartar emetic, spirit and water of ammonia, ether, etc., but, though satisfied with his employer and with the success they were making, he became restless and, much to the disappointment of his new friends, and to the great vexation of Mr. Perkins, he determined to leave Boston for Philadelphia, the city of his choice. Here he took charge of the laboratory of a German named Wesner, where he manufactured chromates from the native ores of Maryland and Delaware. These salts were being successfully made when Wesner, desiring to extend his business, engaged in the preparation of the mercurial salts. This occupation occasioned Durand a spell of illness accompanied by profuse salivation, which induced him to abandon the laboratory and return to his legitimate business, pharmacy.

Mr. Durand next went to Baltimore, with satisfactory letters, and applied to E. Ducatel, a prominent pharmacist of that city, who would have engaged him but for his inability to speak the English language, and who advised him to devote himself to the study of that language, which he did for three months, at Belair, with considerable success.

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Returning to Baltimore, he hoped to enter Mr. Ducatel's store, but the depressed state of business did not require additional service, and Mr. D. advised him to see Dr. Gerard Troost, of Cape Sable, Maryland (afterwards the first Professor of Chemistry in the Philadelphia College of Pharmacy in 1821), who was engaged in making iron salts, and might employ him till spring, when he hoped to be able to give him a position.

Disappointed but not discouraged, our young adventurer set out on foot to find Dr. Troost, in the midst of winter, the ground covered with snow, and the road unfrequented and difficult to find, owing to dense forests intervening, with only two houses on the road after leaving the vicinity of Baltimore. Having reached the first house noted on his paper about one o'clock, he applied for dinner. The appearance of the inmates was anything but favorable, and the wall of the room was hung with colored pictures of Indian massacres, which impressed his imagination strongly. After paying for the ill-relished meal of pork and beans he continued his forest journey about two miles, when he saw coming towards him some ten or twelve persons, strangely attired, quite different from anything he had seen before. As they came near it became apparent that they were wrapped in blankets, had painted faces, carried bows and arrows, and in fact were the counterpart of the pictures, being the first live Indians he had seen. With his ideas excited by the pictures he had just examined, aided by the uncouth character of the people at the house, he had some doubts of his personal security when thus brought face to face with the red skins in the forest, and for a moment felt undecided whether to advance or retreat, but, going towards them, one of the chiefs came forward and presented a paper for his perusal, which proved to be a recommendation from the President of the United States, stating that the chief and his warriors had been faithful to the country during the war of 1812 on the frontier. Our traveller, greatly relieved from his embarrassment, gave the chief some money, shook hands with each of the troop, gave a hearty hurrah! with his hat off, to which the Indians responded and passed on their way. Continuing his journey the snow increased, night set in before attaining his destination, and seeing a light in the distance, he went towards it for shelter until morning.

He was kindly received, and, on inquiry for Dr. Troost was informed that he was four miles out of his way, and was invited to remain. A death had occurred in the family, many relatives had gathered to attend the funeral on the morrow, and no other place could be offered him for lodging than the room where the dead man was laid out. This was not objected to, and, fatigued with his long journey, our young friend slept soundly, and arose much refreshed. Having attended the funeral, the first country burial he had seen in America, he was greatly surprised at the dinner feast which followed on the return of the guests to the house, and of which he partook, reminding him more of a marriage occasion. His host kindly sent him to Dr. Troost's with a negro guide.

Mr. Durand was kindly received by the Doctor, who, however, did not need his services, as the rough processes of his copperas manufacture were chiefly conducted by negroes, but invited him to remain and keep him company as his guest, being much in need of social intercourse in his isolated home. He found Dr. Troost a learned chemist, mineralogist, and geologist, with a general

acquaintance with the sciences, and when urged, accepted the hospitable invitation to remain until the end of winter.

About this time he received proposals from Mr. Ducatel to take charge of the pharmaceutical part of his business, and on the 5th of April, 1817, he entered on the duties of his new position. His professional knowledge was appreciated, business flourished, his employer was well satisfied, and extended toward his new clerk many acts of kindness as well as his love and affection. Mr. Durand often spoke of the social advantages he received whilst resident with Mr. Ducatel, among which was meeting with eminent Frenchmen in exile. It was during his stay in Baltimore that he began to study American botany and to form the nucleus of the great herbarium which he afterwards acquired.

On the 20th of November, 1820, he married the daughter of his friend and employer, Miss Polymnia Rose Ducatel, who died on the 18th of February, 1822, leaving an infant daughter, who lived to the age of 14 years.

In May, 1823, E. Ducatel retired from business, leaving his establishment to his son Jules Ducatel (afterwards Professor of Chemistry in the University of Maryland), and his son-in-law, E. Durand, who entered copartnership as E. Ducatel & Sons, which continued only a year, Durand retiring, with the view of establishing himself in Philadelphia. He also determined to visit France, to procure his *materiel*, and in July, 1824, he left New York for Havre in the ship "Sylvie de Grace," arriving on the 14th of August. His time was employed in selecting stock, apparatus and bottles (which were duly labelled for use and of the heavy French pattern), together with everything needful for a first-class French "officine," and returned in the same vessel to New York on April 22d, 1825.

The house, then existing at the south-west corner of Sixth and Chestnut streets, where the "Ledger" office now stands, was occupied by Alderman Barker, who, for a consideration of \$500, ceded to Durand a ten years' lease. The necessary alterations were rapidly pushed forward, and on the reception of his goods he fitted up the store at considerable expense, using French glass ware, porcelain jars, mahogany drawers and marble counter, in a style unique and attractive in that day. But the most important part was the stock of drugs and chemicals he had selected, including many novelties, and the apparatus for making and vending carbonic acid water.

Coming well recommended from Baltimore, as well as from abroad, the principal physicians, Physic, La Roche, Monges, Bache, Jackson, Griffith, Dewees and others, were prompt in patronizing the store, and its enterprising proprietor soon had a flourishing business.

On the 25th of October, 1825, Mr. Durand married a second time, to Miss Marie Antoinette Berauld, daughter of a merchant of Norfolk, Va., one of the French refugees from the St. Domingo Insurrection. (He had four children by this marriage, all of whom died young, except his son, Alfred B. Durand, who survives him.)

In 1825 he was elected a member of the Academy of Natural Sciences of Philadelphia. This brought him into contact with men of science and opened a field of usefulness for his botanical talents, which he cultivated with great zeal and success, and corresponded with many botanists in Europe, by which

his collection of plants was greatly extended. In the same year he became a member of the Philadelphia College of Pharmacy, and in 1832 was elected a corresponding member of the *Société de Pharmacie* of Paris, and contributed valuable original articles to the Journals of both Societies. In fact he wrote the first article of the first regular series of the *American Journal of Pharmacy*, and others are scattered through the following ten volumes. In 1829, in connection with Dr. Togno, he translated and published Edwards and Vavasseur's Manual of Materia Medica and Pharmacy, to which he made many additions of a pharmaceutical character, before the publication of the United States Dispensatory.

At the period when Durand opened his store French Pharmacy stood confessedly by far in advance of that of all other countries, whilst his thorough education and recent visit to France for stock, etc., gave him such great advantages that his store became an important centre of pharmaceutical information, which directly and indirectly had much to do with the introduction of scientific pharmacy into Philadelphia, and through this College, its Journal and graduates into the United States. Many of the finer medicinal chemicals were made in this country first by Durand, which gave him a prestige in that direction, and his great skill as a pharmacist, his untiring industry, close attention to business and social and scientific qualities attracted the most eminent physicians to his store, which became the daily resort of such men as Drs. Horner, McClellan, Mitchell, Meigs, Mütter, Bache and Goddard. The possession of a good library, and the monthly reception of important foreign journals, enabled him to study new medicines promptly; and, in looking back, it will be found that many new preparations, as solution of iodide of iron, Kermes mineral as now made, iodide of arsenic, iron by hydrogen, etc., were first introduced through his store. This devotion to his profession soon rendered "Durand's drug store" well known to the general public, and gave a great impetus to his prescription business.

Durand took pains in training his apprentices, and some of our best pharmacists emanated from his counter. He required of them daily study of articles in the Dispensatory, and it was his custom to examine the packages of drugs for stock when received, making it the occasion to point out to his boys and assistants the faults and merits of the articles. Looking at Pharmacy as a profession, requiring education and training for its success, he taught them to respect their business, and always manifested a warm interest in their progress. One of his élèves has said "he never required those in his employ to do that which he would not willingly do himself, and his intercourse with them was not that of master, but of a genial friend." The writer remembers gratefully when, in early life, he was engaged in investigations under great disadvantages for want of accurate instruments, his friend Durand imported a set of French metrical weights, and presented them to him with a word of encouragement.

In 1835 Durand was the first to introduce the bottling of mineral waters in this country, and opened a large establishment in Sixth street above Arch. The apparatus for manufacturing the waters, and especially that part of it for bottling under pressure, was of his own invention and superior to any then in use in France. He afterwards sent the latter to the *Société de Pharmacie*, and

it was adopted into use in Paris. He also at this time extensively manufactured vinegar from cider by a quick process, by which air was forced through the cider and rapidly acetified it. This business was in full and successful operation when the money crisis of 1837 prostrated the commercial community, and with it this branch of his business, with great loss to the manufacturer, who afterwards adhered closely to his legitimate profession until his retirement.

About this period, and for many years after, various valuable contributions to American pharmacy came from Durand's store, through the late Augustine Duhamel, who was a protégé of Durand and identified with his store, having been for many years his chief clerk. The *process of displacement*, now called percolation, was there first introduced in this country by Duhamel, and his active pen placed on record, in the *American Journal of Pharmacy*, from vol. vi to vol. xviii, many valuable evidences of his industry and research.

A peculiarity of Durand's business was the number of specialties he introduced, original or of foreign origin, partially growing out of the patronage of particular physicians. His long experience had given him considerable knowledge in therapeutics, and his medical friends willingly availed themselves of his hints, in his efforts to render their prescriptions elegant and acceptable, as well as efficient compounds.

The relations of Dr. Samuel Jackson with Durand have been much misunderstood, and the cause of jealous and unkind remarks, and at one time even influenced the action of the College of Pharmacy in reference to that physician. Dr. Jackson was remarkable for his mental activity, and having for six years been professor of *Materia Medica* in our college, and one of its earliest members, had a *penchant* for new remedies. His patronage of Durand appears to have been entirely influenced by his respect for the talents of the latter as a pharmacist and chemist, and by the valuable suggestive aid received from him when called upon to meet emergencies in therapeutics. Dr. Jackson would call in and say, "Friend Durand, I would like to use such and such medicines in combination; now do your best to make me an efficient preparation as agreeable as possible;" Mr. Durand would then study out the practical difficulties and get the medicine into shape. In this way many preparations came into use in Philadelphia, first in small quantities, but gradually, by the frequent prescribing of them by Dr. Jackson, became popular medicines, sold in large quantities with printed labels. The use of Dr. Jackson's name in connection with some of these preparations was an accidental occurrence, arising from the patients of that physician asking for them as "Dr. Jackson's"—a course perhaps encouraged by the extreme liberality of Dr. Jackson—but, when too late to recall it, Mr. Durand deeply regretted having unintentionally involved his friend and patron in a question of professional ethics. Among these may be mentioned "Jackson's Pectoral Syrup," "Jackson's Pectoral," and "Ammonia Lozenges," "The Saline Aperient," a compound of tartrate of soda, bicarbonate of soda and cream of tartar with oil of lemon, "Narcotic Cigarettes," "A peculiar denarcotized laudanum," the fore-runner of "McMunn's Elixir," "Syrup of Phosphate of Lime," and "Compound Mixture of the Phosphates," afterwards made into a syrup, came into use from his prescriptions, at Durand's. Phosphate of potash was here first

made for medicinal use for Dr. Jackson, for the "compound syrup of the phosphates," which still continues in use in modified forms as made by Blair, Parrish and others. Extractum sanguinis, made from the blood of the ox deprived of its corpuscles, was also a suggestion of Dr. Jackson. The "Powder" and "Elixir" of Dr. Castillon, of Cuba, Cucumber ointment, Lartigue's pills and various noted French preparations, as Baume Tranquille, Baume Genevieve, Onguent de la Mère and Leroy's medicines were introduced by Durand, and he was the first to import and dispense "Quevenne's iron by hydrogen" in pills, at the suggestion of Dr. Meigs, who prescribed them in large quantities in a great variety of cases.

Through all the varied engagements, disappointments and losses of our friend, his interest in botany never wavered, and appears to have been a source of great pleasure and satisfaction. In 1837 he made an expedition to the Great Dismal Swamp of Virginia, where he acquired many interesting specimens. His friendly relations with Joseph Bonaparte (Count Souvilliers) caused him often to visit the fine country seat of the latter, at Bordentown, famous for its botanical treasures, where he met and was useful to many of his countrymen in exile in their inquiries regarding American institutions. He spoke of the Count as a man of mild and polished manners, unaffected, and gifted with a most agreeable flow of language. Possessing great erudition, he yet suited his conversation to the one conversing with him, making intercourse with him pleasant and agreeable, and he seemed to be perfectly familiar with all the natural sciences.

In 1840, when the Philadelphia College of Pharmacy was invited to assist in the revision of the U. S. Pharmacopœia, Durand was one of the Committee appointed to that service, in which he took part and contributed valuable suggestions to the work, several of which yet remain after three successive revisions. The writer served with him on this Committee, and well remembers his valuable labors and counsel given on that occasion.

In 1844 Durand was elected Vice-President of the College of Pharmacy. In 1851 Mrs. Durand, who, during twenty-six years had been his companion and friend, died at their home on Ninth street, which event induced him to retire from business in favor of his son, and devote his leisure time entirely to botanical studies. Though so long a resident of the United States, and possessing an excellent command of the English language so as to write it fluently and correctly, his conversation was always marked with a French accent, and sometimes with French idiom. He was a good Latin scholar, wrote with great facility in a close set hand-writing, and was the author of several biographical and scientific memoirs. In 1854 he was elected a member of the American Philosophical Society, and was subsequently one of its curators.

In 1855 he published, in connection with Dr. Hilgard, a memoir on the plants collected in the expedition of Lieut. R. Williamson, U. S. Engineer, to California, and another, called "*Plantæ Prattenense*," on an extensive collection of plants made by Mr. Pratten in Nevada and adjacent territory. In 1856 he published an enumeration of the plants collected in Dr. Kane's first expedition to the Arctic regions, in the Journal of the Academy. About this time he wrote and read before the Philosophical Society a biographical memoir of the late François André Michaux, the author of the "*Sylva Americana*," who willed

a sum of money for the establishment of a park of American forest trees, which is now existing in Fairmount Park, and known as the "Michaux Grove." In 1857 he commenced the work of separating the North American plants in the herbarium of the Academy of Natural Sciences, and forming them into a distinct collection, which occupied him several years, often working four hours daily in the botanical room of the Academy. His labors in connection with this valued institution will, however, be more fittingly enlarged upon by a special memorialist appointed by the Academy. In this year he was elected an honorary member of the American Pharmaceutical Association. In 1859 he published a memoir entitled, "A Sketch of the Botany of the Basin of the Great Salt Lake of Utah."

In 1859 his friend, Dr. Thomas Nuttall, author of the three volumes in continuation of Michaux's *Sylva* and other works, and so many years the botanist in chief of the Academy of Natural Sciences at Philadelphia, died in England. The memoir written of him by Durand is said to be one of the best notices of that distinguished botanist and ornithologist, of whom he was the successor in the botanical department of the Academy.

In 1860 Durand visited France a second time, and derived great pleasure from intercourse with his relatives, and many friends who had been with him in "*The Grand Army*." He also for the first time visited England, and was greatly pleased with the gardens and museums of London and vicinity. Whilst in Paris he had occasion to examine the herbarium of the "Garden of Plants," and finding the collection of North American plants very incomplete, he determined to remedy the deficiency by sending over his own fine collection. Ascertaining, however, on his return, that he could yet make valuable additions to his collection, rendering it more complete, he subscribed to all the botanical expeditions, and set to work himself to collect, making excursions every summer, returning always with rich harvests of plants. Finally, in 1868, after putting his herbarium in order by arranging the new specimens in proper position, he packed the whole carefully and shipped it to France, following it on the 26th of June, in company with his son and daughter-in-law, in the "*Ville de Paris*." Durand's collection, the work of many years, contained over 10,000 species and over 100,000 specimens from all parts of North America. This munificent gift to his native country was fully appreciated, especially by the professors at the Garden of Plants Museum, where it has been arranged in a special gallery, and labelled "*Herbia Durand*."

About the year 1858 Mr. Durand presented to the Philadelphia College of Pharmacy a general herbarium of about 12,000 specimens, which form the nucleus of the present collection in its museum.

After his return from France in 1869, he wrote an elaborate article on the genus *Vitis*, of North America, and the relation of the cultivated varieties of the grape to the natural species, together with remarks on the wines made in the United States, and sent it as a contribution to the proceedings of the Linnean Society of Bordeaux, France. This essay attracted considerable attention abroad, and was reprinted by the "*Société d'Acclimatation*," of Paris. He subsequently was elected to membership by both societies.

As a citizen, Durand took but little part in political or municipal affairs.

His social and scientific qualities endeared him to all who came into close contact with him. One who knew him intimately, says "he was a man of generous impulses, and his private charities were numerous." He was an active member of the French Benevolent Society, of Philadelphia, took an interest in rendering it available to his needy countrymen in this city, and remembered it in his Will.

After his last return from Europe our friend continued his interest in botany in favor of his collection at Paris, but many months ago, feeling that age was advancing, and that he had worked industriously and effectively during his long life, he gradually relinquished his scientific engagements. Finding his bodily powers and faculties depreciating, he quietly retired from his usual walks, and after a season of depressed intellectual vigor, he slowly faded away in the 80th year of his age, and died on the 14th of August, 1873, at his residence on Broad street, Philadelphia, honored and respected by all who knew him.

